DOCUMENT RESUME

ED 218 583 CS 006 714

AUTHOR Duffy, Gerald; Anderson, Linda
TITLE Conceptions of Reading Project. Final Report.
INSTITUTION Michigan State Univ., East Lansing. Inst. for Research on Teaching.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
REPORT NO IRT-RS-111
PUB DATE May 82
CONTRACT 400-81-0014
NOTE 99p.; Several pages in Appendix are marginally legible.
AVAILABLE FROM The Institute for Research on Teaching, 252 Erickson Hall, Michigan State University, East Lansing, MI 48824 ($5.00).

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Classroom Observation Techniques; *Classroom Techniques; Elementary Education; Field Studies; *Learning Theories; Program Descriptions; Reading Achievement; *Reading Instruction; *Reading Research; *Student Teacher Relationship; *Teacher Attitudes; Teacher Characteristics
IDENTIFIERS Reading Concepts; *Theory Practice Relationship

ABSTRACT

A 4-year project, Conceptions of Reading, was established to provide information about how teachers use reading theories and models and other conceptions as they plan and carry out reading instruction. The nature of the methodology dictated that the over-all goal of the project be to characterize how teachers think about reading and their reading instruction. The first year of the project focused on conceptualizing the scope of the project and developing the variety of measures that would identify teachers' conceptions of reading. Years 2 and 3 involved field studies in which 23 teachers were observed and interviewed to determine their conceptions and practice of reading instruction. In the fourth year, three teachers who were experiencing some contextual change were observed to determine effects of the change on conceptions and practice. The collected data suggest that a teacher's conception of reading is not a static set of beliefs regarding what reading is and how it should be presented but is, rather, a "free-floating" element that has little meaning until it is filtered through the teacher's conceptions about the classroom as a social unit and applied to a specific teaching context. (HOD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED218583

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Research Series No. 111

CONCEPTIONS OF READING PROJECT

FINAL REPORT

Gerald Duffy and Linda Anderson

Published By

The Institute for Research on Teaching
252 Erickson Hall
Michigan State University
East Lansing, Michigan 48824

May 1982

CS806714

Publication of this work is sponsored by the Institute for Research on Teaching, College of Education, Michigan State University. The Institute for Research on Teaching is funded primarily by the Program for Teaching and Instruction of the National Institute of Education, United States Department of Education. The opinions expressed in this publication do not necessarily reflect the position, policy, or endorsement of the National Institute of Education. (Contract No. 400-81-0014)

Institute for Research on Teaching

Teachers' thoughts and decisions are the focus of studies currently under way at Michigan State University's Institute for Research on Teaching (IRT). The IRT was founded in April 1976 with a $3.6 million grant from the National Institute of Education. A new grant obtained in 1981 from the NIE extends the IRT's work through 1984. Funding is also received from other agencies and foundations. The Institute has major projects investigating teacher decision-making, including studies of reading diagnosis and remediation, classroom management strategies, instruction in the areas of language arts, reading, and mathematics, teacher education, teacher planning, effects of external pressures on teachers' decisions, socio-cultural factors, and teachers' perceptions of student affect. Researchers from many different disciplines cooperate in IRT research. In addition, public school teachers work at IRT as half-time collaborators in research, helping to design and plan studies, collect data, and analyze results. The Institute publishes research reports, conference proceedings, occasional papers, and a free quarterly newsletter for practitioners. For more information or to be placed on the IRT mailing list please write to:: The IRT Editor, 252 Erickson, MSU, East Lansing, Michigan 48824.

Co-Directors: Jere E. Brophy and Andrew C. Porter

Associate Directors: Judith E. Lanier and Lee S. Shulman

Editorial Staff:

Janet Flegg, IRT editor
Pat Nischan, assistant editor

Acknowledgements

A successful research project owes thanks to many persons. In a four-year project such as this one, the list becomes tediously long. However, an attempt must be made to acknowledge at least the major contributors. At the top of the list are the 23 teachers who agreed to be observed and the numerous others who agreed to complete the Proposition Inventory. Without them, the research would not have been possible. Also at the top of the list is Lee Shulman whose wisdom, direction, encouragement and crisis management has often been the determining factor in our work. Finally, the various staff people listed below contributed significantly.

1976-77

Julia Falk
Michelle Johnston
Wayne Otto
Ann Rieser
Joel Van Roekle
S. Jay Samuels

1977-78

Richard Allington
Rebecca Barr
Sandra Buike
Carol Franck
Anne Franzen
Michelle Johnston
William Metheney
Carol Spenser

1978-79

Robert Bawden
Sandra Buike
Dennis Guiser
Lonnie McIntyre
William Metheney

1979-80

Robert Bawden
Sandra Buike
Edmund Burke
Pam Coe
Lonnie McIntyre
William Metheney

Table of Contents

	Page
Introduction	1
Instrument Development	6
The Proposition Inventory	
The REP Test	6
Procedures for Data Collection and Analysis	9
1977-78 Field Study	10
1978-79 Field Study	11
1979-80 Field Study	14
Results: The Nature of Teachers' Conceptions of Reading	16
Teacher Questionnaire Data	16
Field Study Data	17
Non-Reading Conceptions	20
Variations and Complexity of Conceptions	23
Relationships Between Teacher Conceptions and Practice	27
Time Data	27
The Nature of Instruction in the Observed Classrooms	28
Effects of Context on Teachers' Conceptions of Reading	33
Instruction	33
Effects of Ability Level and SES	33
Effects of Context Change	35
Teacher A	36
Teacher B	37
Teacher C	39
Summary	40
Relationships Between Teacher Conceptions of Reading and Student Outcomes	41
Discussion and Conclusions	43
Appendices	
A. Final Version of the Proposition Inventory	51
B. Description of the Five Conceptions Measured by the Proposition Inventory	59
C. The Eight Dimensions of Decision-Making in Reading	67
D. 1978-79 Formal Interview Questions	71
E. Coding Conventions	89
F. Student Outcome Measures	101
G. Dimensions for Graphically Displaying Teacher Conceptions	105

CONCEPTIONS OF READING PROJECT

FINAL REPORT

Gerald Duffy and Linda Anderson[1]

Introduction

In recent years, there has been great interest in the hypothesis that reading teachers possess theoretical orientations which, in effect, organize experiences and trigger behaviors. Examples include Harste and Burke (1977) who state that "despite atheoretical statements, teachers are theoretical in their instructional approach to reading;" Kamil and Pearson (1979) who state that "every teacher operates with at least an implicit model of reading," and Cunningham (1977) who argues for the importance of "the teacher's beliefs about the reading process."

Two recent trends led to this line of reasoning. The first is the teacher effectiveness research of recent years that identifies patterns of teacher process variables that *do* make a difference in terms of producing reading achievement as measured by standardized tests and similar devices. Because these variables represented a pattern of behaviors rather than a single behavior, cognitive psychologists hypothesized that such patterns reflect a specific information-processing model--that the teacher organizes his/her world according to a

---

[1]Gerald Duffy is a professor of teacher education in the MSU College of Education and is co-coordinator of the Conceptions of Reading Project.

Linda Anderson is an assistant professor of teacher education in the MSU College of Education and is co-coordinator of the Student Responses to Classroom Instruction Project.

conceptual frame or schemata or cognitive structure that drives him/her to select certain alternatives over others when making instructional decisions. This notion is implicit in Brophy and Good's (1974) statement that it is "the teacher's belief system or conceptual base" that is particularly important, in Goodman and Watson's (1977) argument that "teachers should be able to articulate the...[reading]... program's theoretical base," and in the work of researchers of teaching such as Shulman (1975) and Clark and Yinger (Note 1). Perhaps Borko, Shavelson, and Stern (1981) reflect this view best when they suggest that the teacher's conception of reading is the basis for decision making.

For reading educators, the idea that such schemata do--or ought to--encompass theoretical orientations of reading is the next step. It seems logical to demonstrate, as do Kamil and Pearson (1979) and Cunningham (1977), that a particular approach to reading should result in significantly different instructional decisions, produce different classroom practices, and result in different pupil outcomes than an alternative approach. As Kamil and Pearson (1979) point out, "different models dictate different (and sometimes opposing) instructional methods," a point they then illustrate by examining top-down, bottom-up, and interactive models of reading in terms of decisions such as initial program emphasis, use of sub-skills, integrating reading activities, amount and type of practice, responses to oral reading errors, and selection of materials.

It is a short step from this argument to the position that teacher-education institutions in general and reading methods courses in particular ought to provide teachers with more thorough theoretical

bases in order to insure consistently rational instructional decisions. Again, Kamil and Pearson (1979) represent the prevailing view when they argue that teachers must "be able to make decisions that are theoretically consistent with one another, because they stem from the same model, and be in a position to recognize when one decision is inconsistent with another."

However, a literature review by Belli, Blom, and Rieser (Note 2) revealed very little research on teachers' conceptions of reading instruction. We actually knew little about teachers' theories or conceptions as they were implemented in the classroom setting and how they affected teachers' practices or student outcome. Thus, the Conceptions of Reading Project was established to provide information about how teachers use reading theories and models and other conceptions as they plan and carry out reading instruction.

An early task of the project was to determine how one would define this phenomenon, which we alternatively referred to as a belief system, an implicit theory, a schema, and a conception. Basically, we had two choices: We could use the preconceived schemes provided by codified theories and models of reading, or we could listen to teachers and attempt to infer their implicit theories.

Initially, we chose the former, constructing an instrument (see Appendix A) based on five models of reading distinguishable in the literature (see Appendix B) that could be used to identify teachers teachers having different "conceptions," and then observing teacher practice in terms of the conception that the instrument indicated the teacher possessed. It soon became apparent that this process did not work for several reasons. First, analysis of the data

collected with the instrument indicated that teachers clustered into two groups, not five as had been indicated in the literature (Duffy & Metheny, Note 3). Second, of the two groups identified, the dominant one was clearly a "bottom-up" processing model, but the other was not a clear opposite nor could it be satisfactorily labeled as "unstructured," "pupil-centered," or any other common label. (These data are discussed in more detail in the next section.) Third, the advent of classroom observations quickly made it clear that the teachers' classroom behavior and interview responses did not fit the researchers' preconceived notions regarding either reading conceptions or the relationship between conceptions and teacher practice.

Ultimately, we eliminated imposed definitions that limited conceptions to codified views of reading and, instead, chose to infer beliefs and conceptions from the observed practice and recorded interview responses of practicing classroom teachers engaged in solving the problematic issues arising in their work. As such, the methodology itself--that of naturalistic field observation and case-study analysis--significantly influenced the nature of the data collected and, ultimately, the conclusions that were drawn from these data.

The first clear example of this influence is seen in our definition of "conception." Two points must be made here. First, we made no attempt to clearly differentiate between a conception, an implicit theory, a schema, and a belief system because existing knowledge does not provide a basis for such a differentiation. Hence, "conception" is our "umbrella term" embodying all those concepts. Second, we defined *conception* as "the sum of the state-

ments that the teacher offers as explanations for the decisions s/he makes about teaching (particularly in reading)." Hence, a teacher's conception was determined by listening to what that teacher said in formal and informal situations and then grouping these statements into categories that illustrated what the teacher referred to most frequently in explaining classroom decisions.

With the definition stated, we then formulated research questions. Again, the nature of the methodology dictated that the over-all goal of the project should be a descriptive one such as the following:

> How can we characterize how teachers think about reading and their reading instruction?

Under this global question, several specific questions were posed:

1. Do teachers have conceptions of reading and, if so, what is the nature of these conceptions and how do they interact with other aspects of schooling?

2. What kinds of decisions do teachers make in practice and how do these decisions relate to the teacher's conception?

3. What relationship exists between teachers having various conceptions and the reading achievement outcomes of their pupils?

Project activities designed to answer these three questions have spanned four years. Year 1 focused on conceptualizing the scope of the project and developing a variety of measures that would identify teachers' conceptions of reading. (Results of instrument development are described under Instrument Development in this report.)

Years 2 and 3 involved field studies in which a total of 23 teachers (10 the first year and 13 the next year) were observed and interviewed to determine their conceptions and practices of reading instruction.

In Year 4, three teachers who were experiencing some contextual

change were observed to determine effects of the change on conceptions and practice.

Instrument Development

One of the first tasks facing the Conceptions of Reading Project was to develop ways of measuring teachers' conceptions of reading. Initially, project members focused on theoretical models of reading as espoused by reading educators. However, after a brief time spent in such discussion, the group focus shifted from the conceptions held by theorists to conceptions held by teachers. This placed the project more in line with the focus of the Institute for Research on Teaching, in which teachers' thinking processes and decision-making processes are the primary subject of study.

Two instruments were developed for identifying and distinguishing teachers' conceptions of reading. These are summarized below. Readers who wish more detailed information about the instruments should consult the references given in each section.

The Proposition Inventory

Work on a proposition inventory to determine teachers' conceptions of reading began in the first year of the project. Development took place over a two-year period, resulting in a 45-item questionnaire with Likert scoring; development is described in Duffy and Metheny (Note 3). Appendix A contains the items.

Initially, the researchers attempted to assess beliefs by building on earlier work by Cadenhead (1976) in which propositions about reading were written on cards, and subjects were asked to sort the cards into piles of agreement and disagreement. Our version of the proposition sort included five categories of beliefs

about reading that were taken from literature searches of standard reading methods texts, reflecting various theoretical perceptions in the field. These five general categories were basal textbook, linear skills, interest base, natural language, and integrated curriculum models (these are described in Appendix B). The original proposition sort used in the project included items from these five categories, some others from Cadenhead's original sort, and others describing a "confused/frustrated" category. Seventy items were considered and subjected to field testing. After initial testing, the instrument was reduced to 36 items and administered again. A series of analyses and revisions followed, resulting in the final form of the instrument used to select teachers.

The first major change in form occurred when the researchers recognized the inefficiency of the sorting format, and changed the instrument to a series of five-point Likert scales. At this point, the six conceptual categories (the five reading theories and the "confused/frustrated" category) were still represented.

During Fall, 1977, the instrument was administered to graduate students at two universities, and factor analysis and reliability analyses were conducted. Factor analyses revealed that the six intended subscales were not represented. Instead, there were three clusters: one representing most of the basal-text and linear skills items; one representing the interest-based, natural language and integrated curriculum items; and one representing the "confused/frustrated" category.

As a result of these analyses, some nondiscriminating items were revised or replaced and the "confused/frustrated" category was eliminated because of an inability to validate it.

After observations in the 1977-78 school year, the instrument was revised again to include several common dimensions of teacher decision making that might be affected by various conceptual stances. These common dimensions of decision making included criteria for judging pupils' success, criteria for forming instructional groups, allocation of time to reading activities, allocation of time-to-ability-groups, favored word-recognition prompts, emphasis on comprehension, and the teacher's view of the instructional role (described in Appendix C).

These dimensions were incorporated into the proposition inventory by including within each of the five conceptual categories a proposition for each of the seven dimensions. This resulted in the 50-item, Likert scale inventory reflecting both theoretical conceptions and practical dimensions of decision making.

Following an administration of the new version, factor analysis revealed two major subscales: a basal and linear skills orientation, and an orientation toward natural-language, interest-based, and integrated models of instruction.

A final revision involved rewriting of some individual items to improve their discrimination and the elimination of items regarding time allocation for ability groups, which discriminated poorly.

The result was a 45-item form that was administered to 128 students at Michigan State University in Summer, 1978. The reliability coefficients for the five intended subscales were computed, and a factor analysis revealed again that the interest, natural-language, and integrated-curriculum conceptions loaded on a common factor, while basal text and linear skills items loaded strongly on two separate factors.

The instrument in this final form was used to identify teachers for study in the 1978-79 year of the Conceptions of Reading project.

The most important finding of this effort was that teachers' conceptions, at least as measured by this instrument, were not aligned with the theoretical positions but, rather, seemed to represent simply a "more structured" conception or a "less structured" conception.

The REP Test

George Kelly's (1955) "role concept repertory" (REP test) was modified to tap teachers' conceptions of reading. The procedure developed by the Conceptions of Reading staff was to list the teachers' students on 3 x 5 inch cards, and to ask the teacher to sort the students according to how they received reading instruction and how they were different in terms of reading, comparing successful and unsuccessful students. Teachers were then asked to explain their categories to the interviewers.

This special version of the REP test was used in conjunction with the proposition sort during the first year of the study as teachers were selected for the initial field study. It is described in Johnston (Note 4).

Procedures for Data Collection and Analysis

Field studies were conducted for three years in the project. During 1977-78, 10 teachers were observed in order to determine conceptions and related instructional practices; in 1978-79, 13 additional teachers were observed, using procedures similar to the preceding year and addressing similar questions, although in more varied school settings; in 1979-80, three teachers who had been observed in 1978-79

were followed as they began to use new reading programs. In this section of the report, the procedures for data collection and analysis utilized in each of these three years is described.

1977-78 Field Study

The 1977-78 study was viewed as a pilot effort during which observation and analysis procedures could be developed and tested. Eleven teachers (Grades 1-6), representing three geographical areas, were selected for observation. (One teacher dropped out shortly after the beginning of the study and was not replaced, so the final sample size was ten.) The teachers were either (1) summer school graduate students, (2) nominees, or (3) remotely situated. The first category was selected from a population of Michigan State University graduate students attending summer school during 1977. More than 300 students were given the Proposition Inventory (see pp. 6-9) designed to classify them into one or more of six conceptual views of reading (natural language, basal text, linear skills, interest, integrated whole, and confused/frustrated). Teachers who revealed definitive patterns in their conception of reading were all interviewed with the REP Test, described previously. After the interviews, a number of conceptually different teachers were identified, four of whom were ultimately selected based on their willingness to participate, geographical proximity, and the opportunity to conduct research in their school district.

A second group of teachers was selected from among nominees by school administrators and reading educators who were asked to name teachers who exemplified their particular conception of reading. Four teachers were in this category.

A third category included teachers in remote sites. Two teachers in New York (studied by Richard Allington, a collaborator with the project) and one in Chicago (studied by Rebecca Barr) were selected.

Observation procedures. Initially, plans for observation included the use of two instruments designed to yield data about classroom organization, routines, resources, physical environment, and decision points in reading instruction. These instruments were to be used in tandem with structured techniques through which the observer recorded interaction patterns. However, initial experience with these structured methods of observing were unsatisfactory, and the methodology changed in the middle of the year to a less structured approach in which the observers wrote field notes describing what was happening in the classrooms and interviewed the teachers before and after each observation. These descriptive field notes were not structured in any sense except that the observers knew that the eight dimensions of decision making would be important (see Appendix C).

Each teacher was observed through four different cycles: early September, mid-December, mid-February, and late April. Each cycle included about 10 observations, although fewer were conducted in December because of the holidays. In addition, each teacher was interviewed formally and informally during the year.

1978-79 Field Study

Thirteen additional teachers were observed during 1978-79. They were selected to represent differing conceptions, as revealed by the Proposition Inventory, but also to represent primary grades

in different school contexts. Teachers were selected from both high and low socioeconomic-status (SES) schools and from schools where there were clear mandates to use a particular reading program, and from those schools where there were less obvious mandates. Within this 2 x 2 matrix, teachers were classified as being more or less structured according to their responses to the proposition inventory.

This design resulted in the following distribution of teachers.

Table 1
Distribution of Observed Teachers
1978-79 Field Study

	Higher SES Schools		Lower SES Schools	
	Curriculum Mandates	No Mandates	Curriculum Mandates	No Mandates
More Structured	2	2	4	1
Less Structured	1	3	1	0

As in the preceding year, data collection included field notes and interviews with the teachers. Most of the interviews were informal, occurring before or after observation. In addition to these informal interviews, four formal interviews were conducted in which all teachers were asked similar questions. A listing of formal interview questions is provided in Appendix D.

The field notes were coded for time allocation data according to a coding scheme adapted from the IRT Language Arts Project. The conventions for coding the field notes are presented in Appendix E.

During this year of the study, several student outcome measures were pilot tested with six target students from each of the classrooms. The objective of this testing was to determine if patterns of student outcomes could be related to the patterns of conceptions revealed by the teachers. In order to tap several different kinds of reading outcomes, the tests included oral reading, language generation, and comprehension questions. A listing of these student outcome measures may be found in Appendix F.

After data were collected in the second year, the 23 teachers (10 from the first year, 13 from the second year) were analyzed for appearance of various reading conceptions. Rather than using a formal scheme for classifying these, each observer reviewed his or her own field notes and described what conceptions of reading appeared to be present. The rule of thumb for this was to "triangulate" (Denzen, 1978) three sources of teacher report data and three sources of data on teachers' instructional patterns.

The data on teacher reports came from formal interviews, informal interviews, and comments made by the teacher to the observers and/or students while teaching. Observers categorized these statements for each of their teachers. If a category contained five or more statements, it was considered to represent a conception of reading for that teacher. The category systems were developed by individual observers, so they varied from teacher to teacher.

Similarly, three sources of data on teacher practices were

collected: field notes, transcripts of audiotapes of reading periods, and analysis of pupil activities during reading period (collected by "tracking" the six target students during some of the observations). Each observer reviewed his or her field notes and created category systems for organizing events. If at least five instructional activities or patterns reflected a particular conception, it was concluded that the conception guided and governed the instructional practice.

In addition to the qualitative analysis just described, time allocation data available from the coding of field notes were analyzed to determine more objective indices of teacher instructional practices.

After each observer reviewed field notes and interviews with each teacher, the resulting conceptions were charted on a 2 x 2 matrix, developed by staff members to display the patterns of teacher conceptions. One axis discriminated between pupil-centered and content-centered approaches and the other axis discriminated between an emphasis on child-environment and reading-learning. The observer drew "bubbles" on the charts in which their varying size from small to large indicated the strength of each conception that had been determined by review of the data. An example of this depiction of conceptions may be found in Appendix G.

1979-80 Field Study

Three of the teachers who had been observed during 1978-79 informed the interviewers that they would be using new curriculum

programs the next year. The COR staff was interested in what changes in the teachers' conceptions and practices might occur given changes in instructional material. Therefore, these three teachers were observed through the next year.

Observations were similar to those of the preceding year in that field notes were taken and informal interviews were conducted. However, they were slightly more focused in that the emphasis of the study was on the curriculum change and its effects on the teacher. In addition, the observers noted more descriptive information about the students as they responded to the teacher's instruction. This was viewed as a way of obtaining some information on students' outcomes through descriptive process measures, since the design and the size of the sample prevented more systematic testing of relationships between reading achievement and curriculum change. An additional change in methodology this year was that observers taped their field notes rather than relying on the original handwritten notes, allowing a more complete record of events in a classroom. Because of the additional emphasis on student behaviors and responses, certain categories of student responses were described in advance and observers were to be especially observant of these, although also noting other classroom incidents relating to the curriculum change.

Analyses of these data have occurred through production of case studies. Each observer reviewed his or her notes to determine the effects of curriculum change on the teacher's conceptions (by comparing data on conceptions across the two years), and

looking for changes in practice that could be related to curriculum change (again by comparing the two years' data).

Results: The Nature of Teachers' Conceptions of Reading

The following summary is taken from Bawden, Buike, and Duffy (Note 5).

Teacher Questionnaire Data

The proposition inventory was used to survey teachers at two points in time. The first time, 602 teachers in three separate school districts were surveyed to determine the nature of conceptions. The second time, 257 teachers were surveyed and attempts were made to establish relationships between teachers' demographic data and conceptions of reading.

We found that teachers do have reading conceptions, but that they do not match the theoretical categories so frequently discussed in the reading literature. Instead, teachers tend to respond to more general categories--categories we labeled "content-centered" and "pupil-centered." The former encompasses conceptions such as basal text and linear skills, while the latter encompasses natural-language, interest, and integrated-curriculum models.

In addition, a teacher's conception of reading seems to be associated with the number of years of teaching experience. This was demonstrated by the fact that the older, more experienced teachers tended to have "content-centered" conceptions, while the younger and less experienced teachers had more "pupil-centered" conceptions.

Field Study Data

Because data from the proposition inventory supported our hypothesis that teachers possess conceptions of reading, we initiated classroom field studies to gain insight into the relationship between teachers' reading conceptions and instructional practice.

We found that the teachers, when explaining instructional decisions, did make enough reading statements to indicate that they possessed reading conceptions and, in most cases, their observed behavior and time use tended to reflect their statements.

Simultaneously, however, teachers offered many other statements to explain their instructional decisions. These statements, when categorized, represented non-reading conceptions, which, in some cases, dominated the teachers' thinking. The teachers tended to be guided more by the non-reading than the reading conceptions. (The nature of non-reading conceptions is discussed below.)

Further, the teachers' decisions seemed to be influenced more by the teaching context than by a particular conception. For instance, teacher conceptions were likely to change if the grade level and/or the ability of the pupil(s) being taught changed.

Our results suggest seven general principles regarding teacher conceptions.

First, *teachers do have conceptions of reading.* In fact, all 23 teachers observed made five or more statements in at least one category of reading or reading instruction, thereby meeting the criterion for having a conception of reading.

Second, *most teachers have more than one conception of reading.* In fact, of the 23 teachers studied, 20 had two or more conceptions of reading.

In cases where teachers have multiple conceptions of reading, they tend to select similar conceptions. For instance, a teacher who holds a "basal" conception is likely to also hold a "phonetic skills" or "sight words" conception (these are all content-centered) and is less likely to hold a "self-selection of trade books" or a "language experience" conception (pupil-centered conceptions).

Third, *teachers also explain their instructional decisions with categorizable statements that represent "non-reading" conceptions.* Some teachers, for example, base instructional decisions on conceptions about mutual teacher-pupil respect, classroom management and routine, the amount of assistance needed by low or high ability pupils, the way pupils learn, social/emotional characteristics, and others. Of the 23 teachers, 15 offered such non-reading conceptions (as well as reading conceptions) as explanations for their instructional decisions.

Fourth, it is also clear that *some teachers possess more complex conceptions than others.* This complexity is seen both in the number of conceptions a teacher espouses and in the number of statements the teacher generates to support each conception. One teacher espoused eight categories of conceptions while another teacher espoused only one. Similarly, some teachers generate only the minimum number of statements about an aspect of reading, which barely qualifies the category as a conception. Other teachers, however, generate a dozen or more statements about a particular conception, thereby suggesting that their conception may be more complex or richer (or that some teachers verbalize

more than others in interviews).

Fifth, *teacher conceptions seem to vary in stability from teacher to teacher.* In other words, some teachers' conceptions and practices remain the same throughout the school year, while other teachers' conceptions seem to be in transition; one conception may gradually grow in importance in the teacher's mind while others diminish in importance. As an example, the category of "developmental stages of growth" was an important factor influencing one teacher's instruction at the end of the school year. This category grew in importance during the year.

Sixth, it appears that *a teacher's reading conception may be related to the grade level taught and to the pupils' ability level.* For instance, seven of eight first-grade teachers espoused "content-oriented" conceptions, with the eighth taking an eclectic position. On the other hand, the teachers who espoused the most "pupil-oriented" positions taught second grade or above. Similarly, teachers often seemed to have a particular ability group in mind when they made statements about reading. This phenomenon was evidenced by the fact that "pupil-oriented" teachers often said their conception would change if their pupils were less able, and "content-oriented" teachers said their conception would change if their pupils were more able.

Finally, investigation of the genesis of teacher conceptions reveals that *teachers modify and change their conceptions of reading and reading instruction over time.* Many sources seem to trigger such changes, including teaching experiences, and life experiences in general. Teacher education classes in reading methodology,

however, appear to be one of the least influential sources of change.

Non-Reading Conceptions

Because there were frequent expressions of "non-reading" conceptions, the interviews conducted with nine teachers in the 1978-79 study were re-analyzed to better describe the nature of the non-reading conceptions. Six rating scales were developed and each of the interviews (four per teacher) was rated on each of the scales.

The scales were (1) motivation, interest, and affect; (2) student development (individual student needs); (3) management; (4) social cohesion (classroom contexts); (5) reading process; and (6) teaching and learning processes (the learning process).

Individual student needs--motivation, interest, affect. The teacher indicates a concern with student motivation, interest, or other dimensions of affect (concerning reading or other areas).

Individual student needs--student development. The teacher indicates a concern with the development of skills that enable the children to function within the classroom: independent work habits, cooperation with others, an instrumental view of reading for the sake of accomplishing classroom tasks or, more generally, other life tasks (but not reading, if discussed in terms of skill levels or reading as a process). "Independence" in using reading to pursue knowledge, but not "independence" in word calling without assistance.

Classroom context--management. The teacher indicates a concern with maintenance of order and on-task behavior in order to accom-

plish instructional plans.

Classroom context--social cohesion. The teacher indicates a concern with the quality of social and interpersonal relationships within the classroom group. The teacher communicates that group dynamics and group needs are important.

The learning process--reading (specific). The teacher focuses on the reading process per se, emphasizing the importance of decoding, language experience, phonics, sight-word recognition, fluent reading for the sake of comprehension, independent word calling, or any other aspect of translating written words into meaningful speech. Responses here could not refer to any other area of instruction but reading.

The learning process--learning and teaching (general). There is a focus on instructional characteristics that could be used to discuss subjects other than reading, such as level of difficulty of materials, readiness level of child (unless discussed as a specific aspect of reading readiness), the need for practice, the need for teacher direction, and so on.

Each interview was rated according to the emphasis given to each dimension by the teacher: (1) no mention made; (2) low emphasis; (3) moderate emphasis; (4) strong emphasis; and (5) very strong emphasis.

Two raters independently reviewed the interviews for each teacher for the first two interview cycles (September and December). They agreed with each other (within one point) on 90% of the ratings. After reaching this level of reliability, one observer completed ratings of the rest of the interviews.

Not surprisingly, the teachers mostly gave rationales specifically related to the reading process (so that they received ratings of 4 or 5, indicating that they placed strong or very strong emphasis on a rationale related to the reading process).

However, several other types of rationales were emphasized as well, although these were not uniform across all the teachers. Eight out of the nine teachers received high ratings (i.e., 4 or 5) for the scale of "general learning and teaching processes." This means they made a lot of statements about how children learn in general to explain particular reading decisions that they made.

Five of the nine teachers also received high ratings for categories describing concerns for individual students.
Five teachers indicated that motivating students was a rationale for many of their reading instruction decisions; in fact, for these five teachers, "motivation" was given as strong a rating as the "reading specific" and "general learning" rationales.

Those teachers who did not emphasize individual student rationales did receive moderate ratings (i.e., a rating of 3) for these scales. In no case did teachers receive low ratings for the scales describing student motivation and student development. A low rating would have indicated very little emphasis placed on these rationales.

However, three of the nine teachers did receive very low ratings (indicating little emphasis given) for classroom management as their rationale for decisions, and five of the teachers received very low ratings for the scale of social cohesion. No teachers

were given high ratings for the scales describing classroom management and social cohesion concerns.

These analyses suggest that the teachers in the sample did indeed have conceptions of reading, in that they responded to questions about reading instruction in terms of reading processes and how they believe children learned to read. However, other conceptions were equally as strong, at least as measured with the rating scales used here. Concerns with group management revealed in the interview were not as strong as concerns for individual student motivation and development, and concerns for the learning process in general.

Variations and Complexity of Conceptions

The field notes and interviews, as analyzed by the observers, were not compared systematically across teachers. Instead, each observer described his or her teachers' conceptions. In spite of the lack of standardization, it is interesting to compare the numbers of different conceptions recorded for different teachers. Table 2 presents those conceptions as defined by the observers for each of the 23 teachers. There are individual teacher differences in both the quantity and content of conceptions as assessed by the observers, and these teacher differences do not appear to be confounded with observer differences. Materials usage, especially among teachers in Grades 1-6, was primarily the basal text.

Table 2

Conceptions Derived from Field Data

Teacher Number	Observer Number	Grade Level	Conceptions as Categorized by Observer	Materials Used
1A	1	Primary	phonetic skills, basal text, contextual reading, classroom management and routine	followed basal text
2A	2	Primary	application of skills in all areas, systematic skills development, integration of reading in daily activities	used several sources of materials
3A	3	Upper	pupil self-selection and self-pacing in reading, pupil interest and motivation	trade books except for slow students
4A	2	Primary	word recognition skills, objective-based skills monitoring system, high ability children need less help	followed basal and skills monitoring system
5A	4	Primary	natural language, comprehension (with higher ability pupils), word recognition skills, skills monitoring (with low pupils)	used basal text
6A	4	Primary	natural language, basal, sight words, some kids "catch-on" and some don't, less can be expected from low SES kids	used phonics programmed textbook
7A	5	Upper	integration of reading and language, flexible view of skills, positive attitude toward kids	used basal text

(continued on next page)

Table 2 (continued)

Teacher Number	Observer Number	Grade Level	Conceptions as Categorized by Observer	Materials Used
8A	3	Upper	self-selection and self-pacing of reading, systematic teaching of skills	no formal reading observed
9A	6	Primary	oral language base, skills monitoring systems, integrating writing and reading, pupil self-selection and self-pacing, concern for the child's emotional well-being	used basal textbook
10A	7	Primary	integration of reading and writing, self-selection and self-pacing in reading	followed basal text
1	8	Primary	phonetic analysis, aides, practice with games, basals, poetry and writing, verbal and extrinsic feedback	followed basal text
2	7	Primary	enjoyment of literature, basal, skills, practice with games, pupil motivation and interest, efficient management	followed basal text
3	7	Primary	skills, basal, integrating reading with language arts, enjoyment of literature, integration of reading throughout day, materials as tools, mutual teacher-pupil respect, efficient management	followed basal text
4	7	Primary	basal text	followed basal text
5	2	Primary	basal text	followed basal text
6	1	Primary	natural language, direct teaching of skills, basal, love of reading through book sharing, developmental stages of growth	followed basal text

(continued on next page)

Table 2 (continued)

Teacher Number	Observer Number	Grade Level	Conceptions as Categorized by Observer	Materials Used
7	6	Primary	word recognition skills, basal, integration with language, enjoyment and use of reading, interest in basal stories	followed basal text
8	6	Primary	basic skills of word recognition and comprehension, oral reading, basal text and ability groups, interest and motivation through interesting basal stories	followed basal text
9	7	Primary	importance of using literature, basic skills of phonics, classroom management, social-emotional growth, handling individual behavior problems	followed basal text
10	6	Primary	word recognition skills, basal structured approach to teaching, low SES kids need structure	followed basal text
11	2	Primary	child interest, language, basal, skills	followed basal text
12	2	Primary	systematic skills development, basal ability groups, phonics, building self-concept	followed basal text
13	4	Primary	learning in structured stages, basal, enjoyment of reading, pupils progress in stages	followed basal text

Relationships Between Teacher Conceptions and Practice Time Data

As described under Procedures and in Appendix E, field notes from the 1978-79 school year were coded for time use according to dimensions of instructional practice, types of reading activities, vehicles of instruction, favored prompts, comprehension emphasis, and teaching activity. These data were analyzed to determine if the teacher's actual instructional practice (as measured as time use) reflected the conceptions that were expressed through the interviews. In order to address this question, the researchers created five hypotheses about teacher beliefs or conceptions based on the teacher's time allocation data. Independently, someone else compiled teacher beliefs from the teacher interviews. Then these two sources were compared. Approximately 80 percent of teachers' reading beliefs, as expressed in the interviews, were predicted from the time utilization data. This suggests a fairly close relationship between conceptions and instructional practice, at least when practice is measured as time use. For example, teachers who said that they relied on the basal texts spent a lot of time using the basal text. Teachers who indicated a very strong belief in skills activities devoted a lot of time to such activities. Teachers who were interested in developing positive attitudes toward reading spent more time in affective activities.

Similarly, an analysis was made of time use in high and low reading groups to determine the congruity between beliefs and practice across ability levels. Like the findings for the

total time, the results indicated that teacher practices with high and low groups tend to reflect their stated beliefs.

It should be noted, however, that all the time utilization data tended to be similar across teachers, suggesting a homogeneity of primary grade reading practices. Instruction appears to be based not on various reading theories that trigger qualitatively different instructional decisions but, rather, on situational conditions in the classroom context, primarily the use of the basal textbook. Consequently, while the findings suggest that teacher belief statements matched their practice, for the most part there was little variation of practice from teacher to teacher, suggesting that the primary belief common to all was a faith in the basal textbook as an instructional tool. Consequently, the basal, rather than various theories, appears to guide and govern instructional practice.

Further details of the analysis of time data may be found in Bawden and Metheny (Note 6).

The Nature of Instruction in the Observed Classrooms

One pattern of instruction was present to some extent in all of the classrooms, in that actual reading group instruction was based on the basal reader and the accompanying workbook. This pattern of instruction was termed "materials-driven." Duffy and McIntyre (Note 7) selected six teachers for detailed analyses of the nature of their instruction. These six teachers had been observed during the 1978-79 field study and were selected because they all taught first or second grade and because they represented a variety of time use patterns.

The researchers focused on the nature of "assisted learning" offered by these teachers. Assisted learning was defined as instruction in which the teachers acted to minimize learning difficulties by consciously assisting the learners in some other way than responding to student errors. Therefore, Duffy and McIntyre were looking for incidents in which the teacher was presenting new material to the students in a manner in which they could easily answer each succeeding question.

Field notes and audio tapes for the reading groups of each teacher (collected across the year, one per observation cycle) were analyzed according to the following seven steps. First, the data were read and notations were made in the margins regarding the type of activity being pursued and its relationship to the concept of assisted learning. Second, the data were read again to identify instructional episodes, with each episode defined as a teacher-directed change in activity (e.g., directing the students to put their papers away and to open their workbooks to a particular page). The third step was to cut the field notes into separate instructional episodes and group these into categories (e.g., all examples of group oral reading of basal stories were grouped together). Fourth, the categories of instructional episodes were read to determine the steps and sequence that the teachers followed in assisting learners. Fifth, the categories were read to identify the devices and/or techniques employed by the teacher to make the learning easier for the student. Sixth, if examples of assisted learning were found in one category, they were compared with examples from other categories to determine whether a pattern was evident across the

various types of instructional episodes. Finally, the findings were compared to case studies written by the participant observers and to the results of the computerized time summaries to insure that the data were consistent.

The four interview transcripts for each teacher were read to answer the research questions regarding the relationship between the teachers' conceptions of their instructional roles, their decisions, and their patterns of assisted learning. Each reference that a teacher made to instructional role was underlined and all the statements were categorized. These statements were examined for evidence that teachers made decisions regarding alternative types of assistance to use. The pattern of instructional behavior was also examined to determine whether there appeared to be a repertoire of alternatives from which choices could be made and whether choices were indeed made among these alternatives.

The final analysis step was to compile the results of the above steps into six case studies. These provided descriptions of the teachers, their patterns of assisted learning during reading and their rationales for doing what they did.

These data were based on selected reading group lessons for only six teachers, and therefore are not meant to generalize to all first and second grade teachers, or to all lessons taught by these six teachers. However, the pattern of instruction described here is provocative. The teachers' view of reading instruction seemed to be based more on the need to move students through materials and to rely on the materials for instructional decisions, rather than an analysis of the reading process and individual student's needs.

Buike (Note 8) analyzed the instructional decisions made by four other teachers (two from the 1977-78 sample and two from the 1978-79 sample) and reached similar conclusions. Most of the teachers' decisions occurred in the early part of the year, focusing on issues of testing, grouping, selection of materials, and management. Buike characterized decisions occurring between October and May as "technical" decisions, in which the teacher seemed to be basing daily plans almost exclusively on the material available to her (especially the basal series). Of special interest were the statements from all four teachers that "a good teacher's guide" was the single most important factor they consider in deciding about a new textbook series. The teachers also stated that the reading program was responsible for the students that did well, although they tended to attribute students' failure to factors outside of the classrooms such as learning disabilities and home problems.

The conclusions reached by Duffy and McIntyre and by Buike suggest that teachers' views about reading instruction are closely tied to the materials that they use and to the need to maintain the flow of activities within a classroom. Perhaps the teachers were basing their daily instructional decisions on the demands of the classroom environment as they perceived them. One staff member conducted further analysis to determine differences between two groups of teachers, one considered to be "more proactive" than the others (by providing more guided assistance and less recitation activities). All four of the teachers who were considered to be more proactive were operating in schools where there were no

mandates about which basal series was to be used. In contrast, three of the six teachers who were not considered to be "more proactive" were working under mandates to use a particular series, and the remaining three teachers expressed confidence in the people who wrote the basal readers and workbooks and felt that the writers had more expertise than did the teachers. This suggests that the policies of the school regarding selection of materials may have some impact on the quality of instruction that occurs. Perhaps teachers who have been told to use a certain basal series and who are expected to move their students through it are more likely to base instructional decisions on that series, and less likely to develop ways to present instruction in a more "proactive" manner. (The concepts of "proactive" and "reactive" teaching are discussed at greater length in Roehler and Duffy, Note 9).

It should be noted, however, that these results are presented here as having heuristic, rather than predictive, value. These findings lead to questions about reliance on the basal series and the accompanying teacher's manual as the primary source of reading instruction, expecially for students who do not learn to read easily. Of special interest in this regard is recent work by Beck, McCaslin, McKeown (1981) who determined that teacher manuals' directions for "setting the purpose" before reading a story may often create inappropriate expectations for the student that can lead to poor comprehension.

Effects of Context on Teachers' Conceptions of Reading

Instruction

Work done early during the 1977-78 field study revealed that relationships between teachers' conceptions and their practices were moderated by the presence of instructional mandates (Buike, Burke, & Duffy, Note 10). This finding stimulated interest in the effects of various contexts on teachers' reading conceptions and practices. Context was defined very broadly to include grade level, SES level of the student, the nature of the commercial curriculum program used, and whether or not it was mandated by the school.

Effects of Ability Level and SES

Two specific analyses addressed questions of context effects. The first one was conducted by Metheny (Note 11). During the final interview of the 1978-79 field study, the teachers were asked to state their beliefs about appropriate ways of dealing with the eight tasks of teaching (or dimensions of decision making) for students at various ability and SES levels. These teaching tasks included criteria for judging pupil reading success, selecting materials, forming instructional groups, allocating time to reading activities, allocating time to groups of pupils, selecting word recognition prompts, comprehension emphasis, and favored instructional role. The teachers were asked about each of these dimensions for their present lowest-level reading group, their present highest reading group, their whole class, a class at the

fourth- or fifth-grade level, and for a class of students at a different SES level that they were currently teaching.

Each of the nine teachers for whom final data were available taught first grade or second grade. Six of the teachers were in low SES schools, and they were asked questions about what they might do differently if they were in a high SES school at the same grade level. The other three teachers were at a high SES school and were asked questions about how they might alter their decisions in low-SES classrooms.

The teachers' responses were analyzed for content and compared for differences across the various groups of students. In general, the teachers' statements about what to consider varied consistently. They all seemed to share a "linear" view of reading that was based on the students' mastery of basic word attack skills before progressing to higher-order comprehension skills. When they talked about their low reading groups, or when the three teachers discussed what to do in low-SES classes, they usually emphasized the importance of word attack skills with very simple comprehension exercises that relied on factual recall. When they described their highest reading group, higher-grade level students, or high-SES classrooms, they described an approach that placed a greater emphasis on comprehension at higher levels (inferential, critical, and analytical thinking). In short, the teachers saw more similarity

between the primary-grade, high-achieving readers and the fourth- and fifth-grade readers than they saw between high and low achieving readers in the same classroom.

The results of this analysis confirmed earlier findings (based on the proposition inventory) that teachers in the lower elementary grades tend to be more "content-centered" (emphasizing basal and linear skills) while upper-grade teachers seem to be "pupil-centered," (emphasizing conceptions of reading that were interest-based, natural language based, or reflective of subject matter integration).

Although these analyses are based on only nine teachers, they are provocative in suggesting ways that teachers' conceptions of student ability and SES may influence their selection of instructional activities. However, it should be remembered that these conclusions are based on self-reports and were not tied to actual instructional practices or effects.

Effects of Context Change

The second major effort in which the COR staff tried to trace the effects of context was a set of three case studies of teachers during the 1979-80 year. Three of the teachers in the 1978-79 sample informed us at the end of that year that they would be using a different commercial program the next year, as mandated by their schools. They agreed to let us continue observing and talking with

them about their reading instruction as they dealt with this change. The results for these are briefly summarized below.

Teacher A

In one case, a teacher who had stressed the importance of motivation through a variety of materials and activities began using a very structured, phonics-based program with regular, repeated materials and activities with her lowest achieving reading group. This teacher followed the guidelines for the new program carefully and this resulted in reading group instruction that was very different from her practice the year before.

Although the program only specified how to conduct the group lesson, there were other changes in practice as well that could be attributed to an interaction between the teacher's preexisting conceptions and the new program. For example, she felt very strongly that one group of students should not feel more special than the others, and so she used some of the special gimmicks and signals from the new program with all of her students. Another example of this interaction stems from her strong belief in the importance of reinforcement and practice under supervision before students are allowed to work independently. Because of this, the special group was given additional practice with the program materials over and above what was specified in the curriculum guide. Such examples illustrate how teachers' preexisting conceptions can interact with

the mandates of the new curriculum program to influence instructional practice. In the case of this teacher, there was no dramatic change in her conceptions of reading in terms of the rationale she offered for her instructional decisions. However, she did begin to include in her rationales more statements about the importance of structure and predictability for lower achieving students. This was an interesting change for her, because she had earlier emphasized the importance of variety of materials and activities for all students in order to encourage motivation. This change can be attributed to her perceptions that the program was successful for these students.

Teacher B

In another case, the commercial program selected by the teacher studied was an attempt to standardize the reading program in the first through third grades. This teacher felt that the new program was a "high motivator with lots of center activities" and placed an emphasis on phonic blending, which she deemed an important factor in a reading program. In addition, the instructional segments of each lesson came packaged in the form of audio tapes. Each teacher was required to use the tapes for instruction and, in the minds of the teachers, further standardizing the instruction for the students in the first through third grades.

The teacher's conception of reading in the previous year of

research had been closely tied to her use of the basal textbook series. With the implementation of the new program during the 1979-80 research year, her conception of reading remained materials-based as she became very involved in using the new program. As she stated, "I'm caught up in doing what the book says to do and doing the page and that's reading." Further, she stated that the program "is good because it makes all of the decisions for you and you get caught up in the program--the problem is, however, you begin to stop instructing and just read directions."

During an interview, the teacher was asked by the researcher if "you have to know how to teach reading to be able to use the new program?" She replied, "No!" and continued, "I think anyone could. My mother who teaches high school could probably come in and do it if she did everything they (the voice on the tape and the teacher's manual) said to do."

The teacher studied was an experienced teacher. She often talked about the fact that she would make changes and modify the program for use in the next year's reading program. However, while aware that she felt the program was not "complete enough" in terms of the amount of actual reading completed by students, she made few changes while using the program in its first year of implementation. Only in the case of the five high ability students did she modify the program. For these students, based on

her belief that they needed to read more, she provided a set of basal readers for their use. She gave these students the readers because, "I want them to get words, words, words, words." When asked by the researcher why she didn't modify the program for the other students, she stated, "I don't want to jump the gun because for those students maybe the skills are going to be introduced later on." Further, for this teacher, a modification in the program based on these students' individual needs would provide a "management kind of problem" as "some would have it done and some wouldn't have it done."

In short, the context change for this teacher and, hence, her conception of reading, was based on the commercial materials used by teacher and the students. Although numerous language-based activities were a part of her program, it appeared that the commercial program they used dictated the reading instruction for her students.

Teacher C

Teacher C believes that a good beginning-reading program should follow the basal format but be supported by a strong skills component. Additionally, the reading program should stress an enjoyment of reading through poetry and incorporate elements from language experience such as personal biographies and experience stories.

Accommodating the context change—new phonics materials—to her conception of reading caused no major changes in her conception of reading. She still used the basal text and she continued to teach phonics. However, she was observed working with the members of each reading group through the phonics workbooks and was pleased to say that each group had managed to get through three phonics workbooks. Normally, she would follow the prescribed format but on occasion she did skip pages because she felt the children knew the skill being taught and needed to work on other skills.

Perhaps the most noticeable change in her conception centered around reporting (student) progress to parents. Here she described what a child could or could not do related to skills and in comparison to the other children in the class. In cases where children weren't achieving at a similar level with other children, they were evaluated in a less favorable light.

Summary

The study of the three teachers suggests that a context change in the form of a new commercial program had little effect on these three teachers. Each tended to reflect basically the same conception as documented for the previous year except for certain relatively minor personal adaptations. Of these adaptations, only those of Teacher A suggested any real substantive modification;

the adaptations of Teachers B and C were quite minor.

It should be noted that the results do not imply that context has no effect on conception but, rather, that the particular contextual change noted had no great impact on these particular teachers. For instance, all three teachers were essentially materials-driven rather than conception-driven (Teachers B and C more so than Teacher A) so that a change in commercial material did not modify this conception but reinforced the findings that the content of instruction was more a result of the directives of the materials than the judgements of the teacher.

Relationships Between Teacher Conceptions of Reading and Student Outcomes

Although the study was not originally conceived as an effectiveness study, where differences in student achievement gains seemed to be related to differences in teacher practices or beliefs, we became interested in the relationship between patterns of student outcomes and patterns of teacher beliefs. To this end, a small pilot study was conducted in 1978-79. (Appendix F describes the procedures.) Six students from across the achievement range were chosen from each of eight classrooms. In December and again in late May, each pupil was administered the Woodcock Reading Mastery Tests and also a reading attitude measure (as well as some other measures that were later discarded). Analyses of these data revealed no clear-cut relationships between teacher conceptions of reading and the Woodcock Scores or the attitude survey (Buike,

Burke, and Duffy, Note 10). It had been expected that teachers who emphasized a more graphemic emphasis would have relatively higher scores for word attack skills compared to comprehension, and that teachers who emphasized comprehension and meaning more would have the opposite pattern, but this was not the case. There were no differences in student attitudes (as indicated by choice of reading activities.) Students consistently indicated greater interest in play-type activities than in reading-based activities regardless of the teacher conception. Other pilot measures were not subjected to extensive analysis due to a lack of standard administration procedures.

Although other research has suggested that there is a relationship between a teacher conception of reading and the type of student outcomes acquired by students (Harste and Burke, 1977), this pilot study failed to uncover such a relationship. The problems may have been methodological, given the small number of classes and students within classes. Also, a greater variety of measurement devices might have revealed more clear-cut relationships. Despite some differences in the teachers' conceptions, there were no differences in patterns of outcomes, probably due to the fact that all of the students were receiving instruction through basal reader programs and were, therefore, receiving similar types of instruction.

Discussion and Conclusions

The study of teacher conceptions of reading seems to have resulted in a better understanding of how teachers think about their subject matter. However, to date, the data do not support the basic hypothesis that effective reading teachers are necessarily those who analyze the instructional situation in terms of a reading conception which "pushes" them to select particular instructional alternatives. Instead, the interaction between instruction in reading and teacher conceptions is a complex one; teachers apparently modify their instructional decision-making according to multidimensional conceptions, and those decisions concerned with questions of reading content may be significantly less important than others. Hence, contrary to the hypotheses noted at the outset, theories and models of reading are not related in a simple, linear way to instructional practice nor is there support for Harste and Burke's (1977) suggestion that teachers' decisions are based exclusively on an implicit theory of reading. Rather, the relationship between a teacher's reading beliefs and instructional decision-making appears to be fluid; a teacher's conception of reading is not a static set of beliefs regarding what reading is and how it should be presented but is, rather, a "free-floating" element which has little meaning until it is filtered through the teacher's conceptions about the classroom as a social

unit and applied to a specific teaching context. The conditions associated with this context apparently mediate the teacher's abstractly-held conception of reading, pushing it into the background where it cannot function as the primary cognitive structure that drives the teacher to select certain instructional alternatives over others.

As such, the major contribution of this research may not lie with the specific findings produced but, rather, with its suggestion that the theory of the reading educator fails to account adequately for the multiple complexities and demands faced by the classroom teacher. As stated by Hoffman and Kugle (Note 12) in a recent report, which tends to substantiate much of what is reported here, "beliefs are situational and relate in complex ways to the context of instruction." Hence, the major conclusion of our work may well be that we must abandon the simple, linear hypotheses for classroom reading improvement and generate more complex strategies that reflect and account for the complexities of the instructional setting in classrooms.

Reference Notes

1. Clark, C., & Yinger, R. Research on teacher thinking. (Research Series No. 12). East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1978.

2. Belli, G., Blom, G., & Rieser, A. Teachers' concerns and conceptions of reading and the teaching of reading: A literature review (Occasional Paper No. 1). East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1977.

3. Duffy, G., & Metheny, W. Measuring teacher's beliefs about reading (Research Series No. 41). East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1979.

4. Johnston, M. A descriptive analysis of teachers' conceptions of reading using a variation of the Kelly Role Concept Repertory Test. Unpublished doctoral dissertation, Michigan State University, 1977.

5. Bawden, R., Buike, S., & Duffy, G. Teacher conceptions of reading and their influence on instruction (Research Series No. 47). East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1979.

6. Bawden, R., & Metheny, W. Do teachers practice what they preach? The relationship between teachers' reading beliefs and their instructional practice. A paper presented at the annual conference of the International Reading Association, New Orleans, April 1981.

7. Duffy, G., & McIntyre, L. A qualitative analysis of how various primary grade teachers employ the structured learning component of the direct instruction model when teaching reading (Research Series No. 80). East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1980.

8. Buike, S. Teacher decision-making in reading instruction (Research Series No. 79). East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1980.

9. Roehler, L., & Duffy, G. Classroom teaching is more than opportunity to learn. Unpublished paper, College of Education, Michigan State University, 1981.

10. Buike, S., Burke, E., & Duffy, G. Teacher conceptions of reading as they influence instructional decisions and pupil outcomes. A paper presented at the annual conference of the International Reading Association, St. Louis, May 1980.

11. Metheny, W. The influences of grade and pupil ability levels on teachers' conceptions of reading (Research Series No. 69). East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1980.

12. Hoffman, J., & Kugle, C. A study of theoretical orientation to reading and its relationship to teacher verbal feedback during reading instruction. Unpublished paper, University of Texas at Austin, April 1981.

References

Beck, I., McCashen, E., & McKeown, M. Basal readers' purpose for story reading: Smoothly paving the road or setting up a detour? The Elementary School Journal, 1981, 81, 156-161.

Borko, H., Shavelson, R., & Stern, P. Teachers' decisions in planning of reading instruction. Reading Research Quarterly, 16, 1981, 449-466.

Brophy, J., & Good, T. Teacher-student relationships: Causes and consequences. New York: Holt, Rinehart and Winston, 1974.

Cadenhead, K. What are your beliefs about reading instruction? Journal of Reading, 20, 1976, 128-131.

Cunningham, P. Match informal evaluation to your teaching practices. The Reading Teacher, October, 1977, 51-56.

Denzen, N. Sociological methods: A sourcebook (2nd ed.). New York: McGraw-Hill, 1978.

Goodman, Y., & Watson, D. A reading program to live with: Focus on comprehension. Language Arts, 54, 1977, 868-879.

Harste, J., & Burke, C. A new hypothesis for reading teacher research: Both the teaching and learning of reading are theoretically based. In P. D. Pearson (Ed.), Reading: Theory, research and practice, twenty-sixth yearbook of the National Reading Conference. Clemson, S.C.: National Reading Conference, 1977.

Kamil, M., & Pearson, P. Theory and Practice in Teaching Reading. New York University Education Quarterly, Winter, 1979, 10-16.

APPENDICES

APPENDIX A

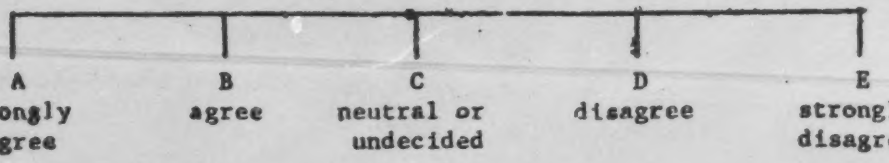
Final Version of the Proposition Inventory

(Appendix A)

PROPOSITIONS ABOUT READING INSTRUCTION

May, 1978

Directions: For each of the following 45 items, please indicate your level of agreement (or disagreement) by circling one of the five letters. In all cases, A means strongly agree, B agree, C neutral or undecided, D disagree and E strongly disagree. IMPORTANT: If you cannot decide upon a response to a particular item after 30 seconds, you should circle C for undecided and go on to the next item.



1. I believe that pupil success in reading should be determined primarily by noting progress from easier basal readers to harder basal readers.

A B C D E

2. I believe that teachers should directly teach the basic skills of reading to those pupils who need them.

A B C D E

3. I believe that the best reading materials are those which help children solve problems of importance to them.

A B C D E

4. I believe that an important indicator of reading growth is how often a pupil voluntarily uses reading in his daily life.

A B C D E

5. I believe that contextual clues are the most important word recognition aids and should receive more instructional emphasis than sight words or phonics.

A B C D E

6. I believe that basal textbook materials are an important part of good instructional programs in reading.

A B C D E

7. I believe that primary grade reading should emphasize decoding skills more than comprehension.

A B C D E

8. I believe that reading success should be measured primarily by noting how well the pupil uses his reading ability for other classroom activities.

A B C D E

9. I believe that the teacher's role is to help children learn to love reading by allowing frequent free reading and by conducting individual book conferences.

A B C D E

10. I believe that reading instruction should focus heavily on comprehension, even at the beginning stages of reading.

A B C D E

11. I believe that an important criteria for grouping pupils is the level basal textbook each is able to read.

A B C D E

12. I believe that all children should be systematically taught to use phonics skills.

A B C D E

13. I believe that the goal of developing comprehension is best achieved by giving pupils realistic reading problems which they see as meaningful in their lives.

A B C D E

14. I believe that reading instruction should emphasize the higher-level comprehension processes typically found in good children's literature.

A B C D E

15. I believe that a very important measure of reading success is the degree to which pupils use reading as a communication process.

A B C D E

16. I believe that considerable instructional time should be devoted to conducting guided reading lessons using selections such as those found in basal textbooks.

A B C D E

17. I believe that a carefully structured skills guide should be used when teaching reading to insure that each separate skill is mastered.

A B C D E

18. I believe that reading groups should be formed as the need for them arises and should be disbanded when the need has been met.

A B C D E

19. I believe that we should spend less time teaching pupils how to read and more time in getting him interested in reading.

A B C D E

20. I believe that reading materials should help children learn to read in a natural manner similar to the way they learned to speak.

A B C D E

21. Children who have similar skill deficiencies should be grouped together for instruction.

A B C D E

22. I believe that reading groups should be based on the pupils' interests.

A B C D E

23. I believe that teachers should spend more instructional reading time on helping children use language as a communication process.

A B C D E

24. I believe that word recognition should emphasize the new vocabulary words associated with each basal text story.

A B C D E

25. I believe that a significant part of a teacher's time should be spent in teaching basic reading skills.

A B C D E

26. I believe that word recognition instruction should not become more important than involving pupils in real-life reading tasks.

A B C D E

27. I believe that comprehension should be taught by asking questions about the basal text story being read.

A B C D E

28. I believe that one effective way to determine pupil reading success is to note how many skills he has learned.

A B C D E

29. I believe that a significant amount of the instructional time in reading should be spent on purposeful, real-life projects and activities which call for the use of reading.

A B C D E

30. I believe that word recognition instruction is not as important in reading as providing children with stimulating, interesting materials to read.

A B C D E

31. I believe that if grouping is used, pupil assignment to groups should reflect more emphasis on meaning cues in reading.

A B C D E

32. I believe that the teacher's role in reading is to assign pupils to appropriate basal materials and direct them as they complete the material.

A B C D E

33. I believe that fewer children would have difficulty learning to read if we stopped teaching reading during self-contained reading periods and, instead, taught it as a part of all subjects.

A B C D E

34. I believe that children should be allowed to choose the stories and books they want to read during the regular reading period.

A B C D E

35. I believe that the teacher's role is to emphasize the communication aspects of reading more than the skills.

A B C D E

36. I believe that a basal text should be used to teach reading.

A B C D E

37. I believe that reading is a difficult process which must usually be taught in a step-by-step sequence if we are to develop good readers.

A B C D E

38. I believe that the teacher's role is to involve pupils in realistic reading tasks which illustrate the functional utility of reading.

A B C D E

39. I believe that reading is not difficult for most children to learn if they are provided with stimulating and lively materials to read.

A B C D E

40. I believe that reading instruction should focus more on the use of meaning cues and less on skill instruction.

A B C D E

41. I believe that I should spend equal amounts of time with the low, middle and high basal text groups.

A B C D E

42. I believe that reading is composed of a series of hierarchical skills which must be taught sequentially and then used in combination if one is to read successfully.

A B C D E

43. I believe that reading instruction should be taught so that pupils can use reading successfully in all curricular areas.

A B C D E

44. I believe that reading would not be such a problem today if we made greater efforts to interest children in the reading of good children's literature.

A B C D E

45. I believe that too much emphasis is being placed on skills (especially decoding skills) in reading programs today.

A B C D E

APPENDIX B

Description of the Five Conceptions Measured by the Proposition Inventory

Conceptions of Reading Project

PROPOSITION SORT

March, 1978

The March, 1978 revision of the Proposition Sort included several changes from earlier editions. First, the "confused frustrated" category was eliminated. Second, the words "I believe" were inserted at the beginning of each proposition. Third, the number of propositions stated for each of the five remaining categories was increased from six to ten per category for a total of fifty propositions altogether. Finally, and most important, the conceptual basis for creating propositions was altered significantly. Rather than create random propositions having face validity but no consistent pattern from category to category, propositions within each category reflected each of the following "dimensions of teacher decision-making in reading," identified in February. Hence, each category has one proposition for each of the following eight decision points:

1. judging pupil reading progress
2. evaluating/selecting instructional materials
3. criteria for forming instructional groups
4. allocating time to various reading activities
5. allocating time to pupils of various ability
6. favored word recognition prompts and cues
7. type of comprehension emphasized
8. instructional role favored by the teacher

The additional two propositions in each category (to bring the total to ten) were selected from among the propositions which appeared on the previous form, but which had not been selected for use in this revision. The propositions chosen were those which, according to the statistics, were the strongest remaining propositions on the January edition of the Proposition Sort.

The following is a listing of each of the five categories of propositions. The column to the left tells which "dimension" the proposition reflects. The propositions having no numeral in the "dimensions" column are those which were selected from the previous edition.

BASAL TEXT

Dimension	
#1	I believe that pupil success in reading should be determined primarily by noting progress from easier basal readers to harder basal readers.
#2	I believe that basal textbook materials are an important part of good instructional programs in reading.
#3	I believe that an important criteria for grouping pupils is the level basal textbook each is able to read.
#4	I believe that considerable instructional time should be devoted to conducting guided reading lessons using selections such as those found in basal textbooks.
#5	I believe that the majority of a teacher's instructional time should be devoted to the pupils who are reading at or near grade level.
#6	I believe that sight word recognition is one of the most important word recognition techniques to teach.
#7	I believe that comprehension activities should be designed to help children recall the essential elements of the selection read.
#8	I believe that the reading teacher's role is that of assigning pupils to appropriate material and directing them as they complete the material.
	I believe that a basal text should be used to teach reading.
	I believe that comprehension should be taught by asking comprehension questions about the stories in the basal text.

LINEAR SKILLS

Dimension	
#8	I believe that teachers should directly teach the basic skills of reading to those pupils who need them.
#7	I believe that primary grade reading should emphasize decoding skills rather than comprehension.
#6	I believe that all children should be systematically taught to use phonics skills.
#2	I believe that a carefully structured skills guide should be used when teaching reading to insure that each separate skill is mastered.
#3	I believe that children who have similar skill deficiencies should be grouped together for instruction.
#4	I believe that a significant part of a teacher's time should be spent in teaching basic reading skills.
#1	I believe that one effective way to determine pupil reading success is to note how many skills he has learned.
#5	I believe that the pupils having difficulty learning to read should receive the majority of the teacher's instructional time.
	I believe that reading is a difficult process which must usually be taught in a step-by-step sequence if we are to develop good readers.
	I believe that reading is composed of a series of hierarchical skills which must be taught sequentially and then used in combination if one is to read successfully.

INTEGRATED WHOLE

Dimension	
#2	I believe that the best reading materials are those which help children solve problems of importance to them.
#1	I believe that reading success should be measured primarily by noting how well the pupil uses reading as he pursues his daily routine activities.
#7	I believe that the goal of developing comprehension is best achieved by giving pupils realistic reading problems which they see as meaningful in their lives.
#3	I believe that reading groups should be formed as the need for them arises and should be disbanded when the need has been met.
#5	I believe that most of our pupils would be good readers if we gave them purposeful reasons for reading.
#6	I believe that word recognition instruction should not become more important than involving pupils in real-life reading tasks.
#4	I believe that a significant amount of the instructional time in reading should be spent on purposeful, real-life projects and activities which call for the use of reading.
	I believe that fewer children would have difficulty learning to read if we stopped teaching reading during self-contained reading periods and, instead, taught it as a part of all subjects.
#8	I believe that the teacher's role is to involve pupils in realistic reading tasks which illustrate the functional utility of reading.
	I believe that reading instruction should be taught so that pupils can use reading successfully in all curricular areas.

INTEREST

Dimension	
#1	I believe that an important indicator of reading growth is how often a pupil voluntarily uses reading in his daily life.
#8	I believe that the teacher's role is to help children learn to love reading by allowing frequent free reading and by conducting individual book conferences.
#7	I believe that reading instruction should emphasize the higher-level comprehension processes typically found in good children's literature.
#4	I believe that we should spend less time teaching pupils how to read and more time in getting him interested in reading.
#3	I believe that reading groups should be based on the pupils' interests.
#5	I believe that if we gave children opportunities to read what they want to read, most of our pupils would be able to read well.
#6	I believe that word recognition is not very important in reading when children have been provided with stimulating, interesting materials to read.
#2	I believe that children should be allowed to choose the stories and books they want to read during the regular reading period.
	I believe that reading is not difficult for most children to learn if they are provided with stimulating and lively materials to read.
	I believe that reading would not be such a problem today if we made greater efforts to interest children in the reading of good children's literature.

NATURAL LANGUAGE

Dimension	
#6	I believe that contextual clues are the most important word recognition aids and should receive more instructional emphasis than sight words or phonics.
#7	I believe that reading instruction should focus heavily on comprehension, even at the beginning stages of reading.
#1	I believe that a very important measure of reading success is the degree to which pupils use reading as a communication process.
#2	I believe that reading materials should help children learn to read in a natural manner similar to the way they learned to speak.
#3	I believe that teachers should spend more instructional reading time on helping children use language as a communication process.
#5	I believe that pupils of average and above average abilities benefit most from my teaching and should receive most of my time.
#4	I believe that groups in reading should be formed on the basis of pupil ability to use meaning clues as they read.
#8	I believe that the teacher's job is to organize the reading period so as to maximize the interaction among all the language arts and to emphasize the communication aspects of language.
	I believe that reading instruction should focus more on the use of meaning cues and less on skill instruction.
	I believe that too much emphasis is being placed on skills (especially decoding skills) in reading programs today.

APPENDIX C

The Eight Dimensions of Decision-Making in Reading

Dimensions of Teacher Decisions in Reading
Teacher # ____.

1. affective response to reading/language | observed oral lang. facility | equal combination of all | measures of pupil reading levels | quantitative measures of skill acquisition

Criteria for judging pupil reading progress

2. trade books & real-life materials | reflectn. of nat. lang. patterns &/or child-written mats. | equal combination of all | basal-like materials | highly structured skill emphasis

Criteria used in evaluating/selecting instructional materials

3. interests of children | language patterns/ language maturity of pupils | equal combination of all | instructional reading level | skill needs

Favored criteria used in forming instructional groups

4. self-select and read mats. of interest | use lang. as a communication process | equal combination of all | guided readg. of stories or articles which are graded in difficulty | mastery of specific skills

How instructional time is allocated to various reading activities

5. most able pupils | above average | equal combination of all | average pupils | slow disabled pupils

How instructional time is allocated to pupils of various ability levels

6. syntactic/ semantic | context and letter sound | equal combination of all | visual/graphic cues and sight word recognition | phonics-letter by letter sounding

Favored word recognition prompts and cues

7. critical and creative | inferential | equal combination of all | literal and factual recall | little or no emphasis

Emphasis on comprehension

8. pupils teach themselves | teacher guides and expedites | equal combination of all | teacher assigns materials & helps pupils as they need it | tchr. initiates and controls instruction

Instructional Role Favored by teacher

APPENDIX D

1978-79 Formal Interview Questions

Interview

11-27-78

1. Since we last talked, have you done any kind of further testing?

2. Has your group changed in any way?

3. Have you selected new materials? Why?

4. How do you feel you spend the majority of your time with the varying groups in your room?. Types of activities.

5. How do you perceive the time you spend with students of varying ability levels?

6. Do you feel you have a strategy you use to help a child attack unknown words? If so, what is it?

7. How do you define reading comprehension? Do you have a strategy you use to help a child gain meaning from printed material?

8. How do you define your belief system of the teaching of reading?

9. How do you perceive your role as an instructor?

10. What are your teaching goals for the rest of the year?

Conceptions of Reading
Fall 1978
Interview Schedule

Teacher Information

1. How long have you been teaching in elementary school?

2. Have you taught at other schools? If so, how many? Where?

3. How long have you been teaching at this grade level?

4. Have you taught at other grade levels at this school or at other schools? How long at each grade level?

5. In terms of teaching reading, which grade level do you most prefer? Why?

Teacher Info on Present Reading Program (Criteria for material and program selection)

1. How/what would you define your present reading program?

2. How did you come to decide on this particular reading program for your class? (probe for sources, e.g. individual decision, other teacher recommendations, principal, curricular mandate, etc.)

3. Does your school have mandates concerning materials and the reading program you are to use in class? (if yes, probe for degree and type of mandated program and materials)

   a. Do you feel these mandates satisfy your notions about how reading should be taught and the materials to be used? (if yes, elaborate. If no, what do you feel needs to be added or changed to complete the program.)

4. What kind of reading materials will you be using mostly in class this year? (probe for type, e.g. teacher/commercial made, and the nature (skills, etc) of materials).

5. How did you come to decide on the materials you will be using for reading? (probe for sources using criteria of eval/selecting).

6. What kind of reading activities will you be using mostly this year? (probe for games, reading centers, projects, etc.)

7. What 3 most important things are you going to try to accomplish in reading this year?

8. What things are you going to do to accomplish these 3 things?

9. When school closes in June, do you hope to have a wider or narrower span between the best reading in your class and the poorest? How will you accomplish your goal?

Teacher Philosophy of Reading

1. What things were most crucial in your reading education that influenced your beliefs about the teaching of reading? (probe for courses, instructors, books, other teachers, teaching experiences)

2. In reviewing the development of your notions about reading do you think your ideas have changed from the time you were a student to the present day? (if yes,) Can you give specific times & experiences that produced these changes?

3. Can you briefly typify your beliefs about reading? (probe for dimensions 4, 5, 6, 7, 8)

Teacher Beliefs About Readers (judging pupil success)

1. Could you define for me what you call a good or a successful reader? What do you look for as signs of a good reader?

2. Similarly, how would you define a poor reader, and, what signs do you look for as signs of a poor reader?

3. What signs do you look for as indicants of reading improvement in a reader?

4. How do you think kids really learn to read? (probe for strategies kids use)

5. Do you feel it is important to remediate poor readers? Do you think there are things you can do to improve poor readers? (if no, why not?) (if yes, what kinds of things would you do to remediate them?)

6. Do you think "high ability" and "low ability" students should be taught the same in reading class?

7. If you had only the best readers in your reading class, how would you work with them?

Secure list of all students, place their names on note cards.

Teachers Beliefs About Grouping (Criteria for grouping)

1. Will you be grouping students in your reading program? (If no, see 5)

2. If so, on what criteria will you use to group your kids for the reading period? (probe for sources of info e.g. other teachers' info, what s/he heard about students, teacher testing, other tested, interacting with students, etc.)

3. Could you please group the children now according to the way you'll be grouping your kids. Please categorize them in groups and call them what you'll be calling them during reading.

4. Could you arrange these groups from highest to lowest in terms of their reading abilities?

5. Individualized instruction (no grouping)--For our purposes, it is necessary to keep tabs on pupil reading activity during the reading period. Do you think you can arrange your kids from the highest to lowest on your own reading criteria, in this class? Could you now divide them into five groups from highest to lowest groups on these criteria?

CONCEPTIONS OF READING

Interview Schedule

Third Cycle - February, 1979

I. Teacher Background

You are probing here to gain insight into the commonalities and differences between the teacher's elementary school instruction in reading and the instruction she is providing for her pupils. Sample questions include:

1. When you were in elementary school, was your family in the high, middle or low SES group in your school?

2. When you were in the primary grades, were you in the high, middle or low reading group?

3. Were the friends you played with during your primary grade years in the high, middle or low SES group of your community?

4. Can you remember how your teachers taught you to read? Describe the materials, procedures, activities, etc. (probe in terms of our dimensions).

II. Genesis and Development of Conceptions

You are probing here to determine how the teacher's practices (and, by inference, her conception) has been modified over time. For each question, ask what the teacher did in her first year of teaching and what she did during her 2nd to 5th year of teaching.

1. What reading growth evaluation techniques did you use? How did you decide on these techniques?
If different ask why.

2. Upon what basis did you form reading groups? Why upon this basis?
If different ask why.

3. What materials did you use? Probe for any other kinds. Why these materials.
If different, ask why.

4. What types of reading activities were included in your reading program? Rank them in order of importance.
If different, ask why.

5. Rank the amount of time you spent with high, medium, and low ability children from most time to least time. What made you decide on this time allotment?
If different, ask why.

6. If a student came to an unknown word, what clues did you provide to help him/her recognize it? Why these clues?
If different, ask why.

7. If a student could not answer a comprehension question, how did you help him/her answer it? Why these clues?
If different, ask why.

8. What skills did you emphasize most? Why those?
If different, ask why.

9. How much oral reading was done in your reading classes? Why?
If different, ask why.

10. How much silent reading was done in your reading classes? Why?
If different, ask why.

11. How was seatwork used in your classroom during reading? What was its nature? What made you decide on this type of seatwork?
If different, ask why.

12. Did you read to your class? Why or why not?
If different, ask why.

III. Principles Describing the Teacher's Conception

You are probing here to obtain a list of principles or propositions or hypotheses which the teacher espouses or accepts as true and which she says she uses in making decisions for and about the reading period.

1. Reading Conceptions. To probe for a reading conception, give the teacher the Prop Sort she completed and take her through it orally. Have her select those propositions she most strongly agrees with and to alter any of those principles to make them agreeable to her. Also look for hints and clues to other principles not included in the Prop Sort.

2. Other Conceptions. Probe relative to other conceptions which your observations have led you to suspect are influencing the teacher's instructional practice. Try to identify the principles which describe these non-reading conceptions.

IV. Instructional Decisions Observed

You are probing here to (1) confirm that what you have, during observations, assumed to be decisions were decisions in actuality and to (2) determine the teacher's rationale for making these decisions. The rationale, of course, should reveal the principles upon which the decisions are based and, hopefully, will help us determine the degree to which decision-making matches conception.

A. Long-range or permanent decisions

Here you probe regarding unspontaneous decisions (the teacher seems to have made them some time in the past and operates in them without conscious thought). Questions might include:

1. I have observed that you almost always . . . When did you decide to do it that way?

2. What conditions caused you to originally make that decision? (probe for genesis).

3. What is your rationale for doing it this way rather than some other way? (probe for underlying principle reflecting a conception).

B. Decisions which seem to be context-specific

Here you probe regarding decisions which the teacher seems to consistently make with only certain groups or certain kids or under certain circumstances: the decision is not universal to the situation. Questions might include:

1. I have observed that what you do with ____?____ seems to be different than what you do with the rest of the class. When did you decide to do it this way?

2. What conditions caused you to originally decide to do it this way? (probe for genesis).

3. What is your rationale for doing it this way with ____?____ and a different way with ____?____ ? (probe for principles association with a conception).

C. "On-the-Spot" decisions

Here you probe regarding decision you have observed the teacher make at particular times and which seem spontaneous. Questions might include:

1. On __(date)__, I noted that you . . . Why did you do that?

2. When was the first time you can remember doing that and what caused you to try it? (probe for genesis).

3. What is your rationale for having done what you did? (probe for principles associated with a conception).

CONCEPTIONS OF READING

4th Cycle Interview Schedule

May 4, 1979

Procedures

The purpose of this interview is to confirm our previous findings regarding teacher thought which appears to guide and govern decisions. To achieve this goal, use the attached format to probe each teacher first for the important conditions (however many she offers) influencing the decisions she makes for each dimension when she considers her poorest readers. When all eight dimensions have been completed, for the class as a whole, create in the teacher a new "mind-set" which focuses on a different SES school setting and ask the same questions. Repeat the procedure again for each of the following: the best reading group, a similar SES but a different grade level (1st or 4th) and for her current class when she thinks of it as a whole. To obtain the cleanest data, carefully provide the "advanced organizer" or "mind-set" which the teacher is to focus on prior to her responses in each of the five context-specific criteria.

In the interest of conserving time, do not try to either write down the teacher's responses yourself or to have the teacher write them down. Just be sure your tape recorder is running! We must have a typed transcript anyway so. . .

Also, I would suggest that you schedule two hours for this interview and do your best to complete it in that time. Once the scheduled time is up, however, conclude the interview as soon as possible whether you're done or not and we will just have to settle for the data we have. I feel we need to do this out of consideration for the teacher and her time as well as out of consideration for you and your time.

REMEMBER, keep reminding these people (and yourself!) that we are asking them about their thoughts/beliefs, NOT what they actually do.

PART I

Now I want you to think only about your bottom reading group--about the slowest readers you have in your class. Now, which of your kids would that be? (Let teacher identify pupils.)

Dimension #1

Thinking only of the kids in your bottom reading group, what do you believe are the best ways to judge the success of these pupils? What should you look for to tell if the slow kids are becoming better readers?

Dimension #2

Still thinking of the bottom group, what do you believe to be the most important characteristics to be considered when choosing materials for reading instruction for these kids? What should you look for in choosing reading material for the bottom reading group?

Dimension #3

Considering only the bottom kids, what do you believe to be the most important criteria to use informing a bottom reading group? How should you decide whether a kid belongs in the bottom group?

Dimension #4

In terms of the slow group, what reading activities do you believe should be given the most instructional time? What do you believe your slow kids should spend most of their reading time on?

Dimension #5

Considering just the slow kids, how much instructional time from you do you believe these kids need? How much of your time should the slow kids receive as compared to other kids in your class?

Dimension #6

Thinking only of the bottom group, what types of clues do you believe these kids should be given when they meet words they don't know in their reading? What do you think you should tell your slow kids when they don't know a word?

Dimension #7

Still thinking of your slow kids, what emphasis do you believe should be placed on comprehension with these kids? What type of comprehension should be emphasized?

Dimension #8

For the slow kids, what instructional role do you believe you should assume when teaching reading? In what way should you intervene with your slow reading group during reading instruction time?

PART II

Now I want you to imagine that you are teaching the same grade level but in a different school. In this different school, the kids are . . . , the homes are . . . , the major type of occupation is . . . , (fill in descriptions which create a contrasting SES from the school the teacher currently teaches in.)

Ask the same eight questions but insert into each question the reminder about the difference in schools.

Dimension #1--Judging pupil success in reading

Dimension #2--Criteria for selecting instructional materials in reading

Dimension #3--Criteria used to form reading groups

Dimension #4--Which reading activities will be allocated the most instructional time?

Dimension #5--Which reading group will receive most of your instructional time?

Dimension #6--Favored word recognition prompts

Dimension #7--Relative emphasis on comprehension

Dimension #8--Favored instructional role

PART III

Now I want you to think only about your top reading group in the class you have now--about the best readers you have in your class. Let's see, which of your kids would that be? (Let teacher identify pupils.)

Dimension #1

Thinking only of the kids in the top reading group, what do you believe are the best ways to judge the success of these pupils? What should you look for to tell if these kids are becomong better readers?

Dimension #2

Still thinking of the top group, what do you believe to be the most important characteristics to be considered when choosing materials for reading instruction for these kids? What should you look for in choosing reading material for the top kids?

Dimension #3

Considering only the top kids, what do you believe to be the most important criteria to use in forming a top reading group? How should you decide whether a kid belongs in the top group?

Dimension #4

In terms of the top group, what reading activities do you believe should be given the most instructional time? What do you believe your top kids should spend most of their reading time on?

Dimension #5

Considering just the top kids, how much instructional time from you do you believe these kids need? How much of your time should the top kids receive as compared to other kids in your class?

Dimension #6

Thinking only of the top group, what types of clues do you believe these kids should be given when they meet words they don't know in their reading? What do you think you should tell your top kids when they don't know a word?

Dimension #7

Still thinking of your top group, what emphasis do you believe should be placed on comprehension with these kids? What type of comprehension should be emphasized with them?

Dimension #8

For the top group, what instructional role do you believe you should assume when teaching reading? In what way should you intervene with your top reading group during reading instruction time?

PART IV

Now I want you to imagine that you are teaching in this same building where you are currently teaching with the same kinds of kids that are here now. However, rather than teaching a _____ grade, you are teaching a _____ grade.

Ask the same eight questions but insert into each question the reminder about the change in grade level.

Dimension #1--Judging pupil success in reading

Dimension #2--Criteria for selecting instructional materials in reading

Dimension #3--Criteria used to form reading groups

Dimension #4--Which reading activities will be allocated the most instructional time?

Dimension #5--Which reading group will receive most of your instructional time?

Dimension #6--Favored word recognition prompts

Dimension #7--Relative emphasis on comprehension

Dimension #8--Favored instructional role

PART V

Think about your current class as a whole, including all your kids and all your reading groups.

Dimension #1

What do you believe are the best ways to judge your pupils' success in reading? Or, what should you look for to tell when a kid's getting better in reading?

Dimension #2

Considering the class as a whole, what do you believe to be the most important characteristics to be considered when choosing material for reading instruction? Or, what should you look for in choosing reading material for the class as a whole?

Dimension #3

Still thinking about your whole class, what do you believe to be the most important criteria to use in forming reading groups? Or, how should you decide what group a kid should belong to?

Dimension #4

In terms of the class as a whole, what reading activities do you believe should be given the most instructional time? Or, what do you believe your kids should spend most of their reading time on?

Dimension #5

Considering all the kids in your class, which ones do you believe should receive the most instructional time from you? Or, which kids should you spend the most time with?

Dimension #6

Thinking of the class as a whole, what types of clues do you believe kids should be given when they meet words they don't know in their reading?

Dimension #6 (cont.)

Or, what do you think you should tell your kids to do when they don't know a word?

Dimension #7

Still thinking of your class as a whole, what emphasis do you believe should be placed on comprehension in reading? Or, what type of comprehension should be emphasized?

Dimension #8

For the class as a whole, what instructional role do you believe you should assume when teaching reading? Or, in what way should you intervene with your kids during reading instruction time?

APPENDIX E

Coding Conventions

November 1, 1978

Conceptions of Reading Project

Conventions for Coding

1. Always consider the large unit when classifying; i.e., if a larger segment of time which is homogenous with respect to content has embedded in it only a short comment by the teacher which would change the subject, reading, LA, or task specification, ignore this comment and code for the larger unit.

2. When the teacher gives directions or elaborates on an assignment, this is part of the regular content and should be coded in whatever subject area it occurs.

3. Announcement of due dates should never be coded separately. They should be treated as follows:

    1) If it occurs during a regular lesson, then treat it as part of the subject area in which it occurs -- do not code it separately.

    2) If it occurs separately as an announcement during a transition, do not code it separately; merely consider it part of the transition.

4. For group designation, if more than one child is involved but less than the whole class, code as a subgroup.

5. For group size involving standard groups, just take the given number in the group minus those children that are absent for that day. For all non-standard groups, count the number involved.

6. Times for intervals must be continuous e.g. 9:12 - 9:20; next interval 9:20 - 9:40; next 9:40 -

7. Movies and assemblies are whole group activities unless otherwise specified.

8. For movies or tests or field trips or educational assemblies code them in terms of the content involved for subject area.

9. Make a judgement about when the transition is over using the criterion of when most children have begun to work.

10. For transitions to and from reading subgroups, code them for the children involved if the information is available. For the beginning of the group lesson, code the transition from the time the teacher announcesthe group to the class to the time at which he begins the lesson with these children. If there is confusion as to the beginning time vs the transition, code the lesson as having begun immediately. The end of the subgroup comes when the teacher announces they are finished. If there is not further reference to these children returning to their seats or beginning other activities, assume this to be momentary and code without a transition. If the information is available, then code the transition.

10a. If teacher is in transition but is assigning materials/collecting/ giving directions--we want to know if she is making a direct reading assignment; therefore, code in the minor subject area.

11. Whatever happens at the beginning of the day or at the beginning of the second half of the day before the teacher formally begins the activities is coded as * transition.

12. Ignore any individual discipline problems in the classroom, no matter the length of time involved, unless they interrupt the teacher while she is with some other kids who are receiving instruction. The key is that it must take teacher time away from some children who would be receiving instruction had the interruption not occurred. Code such interruptions as transitions.

13. If data are missing, leave those columns on the code sheet blank.

14. For transitions, the only thing you code is the fact that it is a transition, the subject column and the beginning and ending time.

15. Note a time change (both when taking field notes and when coding) whenever at least one element of a row on the coding sheet changes.

16. If papers and assignments are made as part of an overall transition from one activity to another, code as a transition. If it occurs as part of a lesson, an activity or a session with a particular group of kids, code it as "assigning/collecting materials".

17. Definition of Reading Activities

1) Word recognition -- any activity which focuses primarily on <u>how to say a word</u> or how to pronounce it.

1. sight words and/or visual discrimination -- activities in which kids are helped to learn to say the word (or letter) by visually distinguishing the word or letter from among others and by remembering what it looks like; primarily a task of visual discrimination and memory.

2. phonic analysis and/or auditory discrimination/memory -- activities in which kids are helped to learn to say the word or letter by using the letter sounds.

3. structure -- activities in which kids are helped to learn to say the word by separating root words from prefixes, sufixes, inflectional endings.

4. context -- activities in which kids are helped to learn to say the word by saying a word that makes sense in that sentence.

2) Comprehension (general questioning) -- any activity which focuses primarily on understanding the meaning of what has been read through a process of asking kids questions about what happened in a manner which approximates a "check-up" rather than a progression of "Socratic questioning".

1. factual recall/literal -- questions which focus on recalling information stated in the material which was read.

2. inferential -- questions which focus on eliciting meaning which is implied (but not stated) in the material which was read.

3. critical/evaluative -- questions which focus on eliciting judgements from kids regarding what they think about various aspects of what they read.

3) Comprehension (skill teaching) -- any activity which focuses primarily on teaching kids how to figure out the answer to comprehension questions.

1. factual recall/literal -- activities which focus primarily on helping kids learn how to figure out the answer to questions which focus on information stated in the material which was read.

2. inference -- activities which focus primarily on helping kids learn how to figure out the answer to questions in which meaning is implied (but not stated) in the material which was read.

3. critical/evaluative -- activities which focus primarily on helping kids learn how to make judgements about what they have read.

4) Using oral language experience -- any activity which focuses on kids using their experience background in developing language facility (reading, writing, speaking, spelling, etc.).

1. building oral language facility -- the focus is on using background experience to develop the oral vocabulary and/or ability to express thoughts orally.

2. sharing experiences -- the focus is on expanding experience backgrounds either by exposing children to direct or vicarious experiences.

3. creating reading stories based on experiences -- the focus is on the production of either dictated or written stories which reflect child's experience and which ultimately can be read by the author and/or by other pupils.

4. reading with expression--teacher directly saying "read with expression."

5) Study skills -- any activity which focuses on using locational tools such as dictionaries and encyclopedias, organizational skills such as note taking and outlining, reference skills or skills in using various reading rates.

6) Using reading to solve a problem or complete a task -- the focus of the activity is the completion of some task in which reading is a "means to the end" or a tool to be used.

7) Affective response to reading -- any activity in which the focus is on developing an appreciation and/or a love of reading or in which an attempt is being made to develop the habit of reading as a recreational leisure time activity.

1. reading to class -- the teacher reads stories or poems orally to the class.

2. expressing interest in books -- the teacher demonstrates or models (by her words and/or actions) her interest in reading as a recreational activity or tells kids why they should like to read.

3. directing/supervising interest-based activities -- the focus is on activities which are designed to have kids become more involved in the recreational aspects of reading (such as book reports, book fairs, art related to books, drama related to books, etc.).

8) Guided reading of graded stories -- children work under the teacher's direct or indirect supervision in reading stories from basal textbooks or other commercial packages of graded reading materials.

1. oral -- the teacher has the pupils orally read passages from the text.

2. silent -- the teacher has the pupils silently read passages from the text.

18. Definitions of teacher ability

1) Incidental instruction (teachable moment) -- the teacher presents instruction not because it has been planned for this time but because circumstances seem to indicate that this would be a beneficial time to do it.

2) Direct instruction -- the teacher presents instruction which has been planned for this time and in which she is trying to achieve certain instructional goals.

1. lecture about content -- teacher provides a verbal description of how to do the task without allowing/encouraging pupil response.

2. guided assistance -- teacher provides a carefully sequenced series of steps and/or questions which lead the pupil(s) to the achievement of the goal.

3. practice -- teacher asks "test-like" questions or assigns seatwork in which the child is expected to perform repetitions of a recently taught activity without teacher assistance; it is practice only if it builds on what has been developed through "a" and/or "b" above.

4. recitation -- same as practice except that the "test-like" questions or seatwork is not tied to recently taught activities; it is recitation if teacher just seems to expect the kids to know or is providing information about the correctness or incorrectness of pupil responses without providing assistance.

5. application -- the teacher focuses on helping children transfer (or use) what she has taught them to a contextual situation (a real book or other life-like reading task).

6. T oral reading to class

3) Monitoring -- teacher circulates among children to ensure that they are doing work properly or is available at some designated point for children who need help to come to her.

4) Testing -- the focus of the activity is on assessment, either for diagnostic or administrative purposes.

1. formal -- the test being administered is standardized and is scored primarily by reference to norms.

2. informal -- the test being administered is either teacher made (flash cards, etc.) or depends heavily on teacher judgement in administration and scoring.

5) Assigning/collecting materials/giving directions -- self explanatory.

6) Record keeping -- self explanatory.

7) Lesson preparation -- self explanatory.

8) Transition/managerial/"set-up" time -- self explanatory.

19. Definition of Vehicles of Instruction

0-4) Self explanatory.

5) Centers -- activity or learning centers around the classroom where kids pursue independent activities or are supervised by persons other than the teacher.

6) Commercial materials

1. basal textbook -- refers to the pupil's edition.

2. reading kit -- a set of materials other than a basal which are dispensed from a compact package and which provide a "program" of reading activities for kids.

3. workbook -- refers to any workbook.

4. games -- refers to games produced to reinforce academic skills.

5. tests -- any commercially produced test.

7) Teacher-made materials

1. experience stories -- includes stories the teacher has children create using paper and pencil as well as dictated stories which the teacher records on experience chart paper.

2. home-made reading stories the teacher has made for children to read.

3. practice material -- any teacher-made games or exercises (EXCEPT DITTOES) which the teacher has kids do for practice and/or review.

4. tests -- any teacher-made test or assessment tool.

8) Dittoes -- includes <u>all</u> dittoes.

20. Definitions of Favored W/R Prompts

1) Letter-by-letter phonics -- when the teacher cues the child to sound <u>each separate letter sound</u> (or phoneme) in turn as a means for identifying an unknown word.

2) Phonic parts and/or structural analysis -- when the teacher cues the child to sound out the sound units (phonograms) in a word or to separate prefixes, suffixes and roots.

3) Visual word cues -- when the teacher cues the child to how the word (or letters within the word) looks as a means for identifying it.

4) Context plus initial consonant -- when the teacher cues the child to the sense of the sentence and <u>simultaneously</u> to the initial letter sound by the unknown word.

5) Context

6) Simply says word for the child

7) Experience cue

8) Attention cue ("look at that again")

9) Not word recognition prompt

21. Definitions of Comprehension Prompts

1) Experience clues -- the teacher cues the child by using some experience she knows the child has had and which she feels will help him understand what is being read and/or encourages the child to read with expression

2) Visual clues -- the teacher cues the child to the pictures or other illustrations in the book.

3) Leading questions -- the teacher asks a series of questions designed to lead the child to the desired understanding.

4) Direct reference to the text -- the teacher cues the child as to where on the page or in the sentence the answer can be found.

5) Language elements -- the teacher cues the child to the lay words or elements of language usage which serve as contextual signals.

6) Hot comp prompt

Teacher Code Sheet

November 1, 1978

Group no.
0. whole group or mixed
1. highest
2. high average
3. average
4. low average
5. lowest

Group Designation
1. whole
2. subgroup
   1. partial
   2. total
3. individual

Group size (2 place no's) Day Time began (4 place no's) Time coded (4 place no's)

Subject Area
0. unclassifiable
1. reading
2. language arts
3. other content areas
4. transition from one instructional activity to non-managerial/"set-up" time
5. ordinary breaks (lunch/recess)
6. beginning and ending exercises
7. toilet
8. other breaks

Reading Activity
0. unclassifiable
1. word recognition
   0. unclassifiable
   1. sight words and/or visual discrimination
   2. phonic analysis and/or auditory disc/memory
   3. structure (prefixes, root words, endings, etc.)
   4. context (using sentence sense)
2. Comprehension (general questioning)
   0. unclassifiable
   1. factual recall/literal
   2. inferential
   3. critical/evaluative
3. Comprehension (skill teaching)
   0. unclassifiable
   1. factual recall/literal
   2. inference
   3. critical/evaluative
4. Using oral language experience
   0. unclassifiable
   1. building word language facility
   2. sharing experiences--show & tell
   3. creating reading stories based on experiences
   4. reading with expression
   5. other
5. Study skills
6. Using reading to solve a problem or complete a task
7. Affective response to reading
   0. unclassifiable
   1. reading to class
   2. expressing interest in books (teacher tells about)
   3. directing/supervising interest-based activities
8. Guided reading of guided stories
   0. unclassifiable
   1. oral
   2. silent
9. Not a reading activity

Teacher Activity
0. unclassifiable
1. incidental instruction (teachable moment)
2. direct instruction (planned)
   0. unclassifiable
   1. lecture about content
   2. guided assistance
   3. practice
   4. application
   5. recitation
   6. T oral reading to class
3. monitoring
4. testing
   0. unclassifiable
   1. formal
   2. informal
5. Assigning/collecting materials/giving directions
6. record keeping
7. lesson preparation
8. transition/managerial/"set-up" time

Vehicles of Instruction
0. unclassifiable
1. blackboard
2. paper/pencil
3. visual aids
   1. pictures
   2. movie
   3. slides/filmstrip
   4. overhead/opaque
   5. other
4. tape or records
5. centers
6. commercial materials
   1. basal textbook manual
   2. reading kit
   3. workbook
   4. games
   5. tests
   6. tradebooks
   7. other
7. teacher made materials
   1. experience stories
   2. individual reading stories
   3. practice material
   4. tests
   5. other
8. dittoes
9. not instructing

Targeted W/R Process
0. unclassifiable
1. letter by letter phonics
2. phonic parts and/or structural analysis
3. visual word cues (sight words)
4. context plus initial consonant
5. context
6. simply says the word for the child ("look at that again")
7. experience cue
8. attention cue
9. not word recognition prompt

Focus of Total W Process
0. unclassifiable
1. experience clues
2. visual clues (pictures, print)
3. reading ahead
4. direct reference to the text
5. language clues (key words, phrases, etc.)
6. other prompt

Teacher - Each teacher has a unique number.

Student - Number students uniquely within class (2 digits)

Day

Time (beginning/ending)

Group size (2 digits)

Group designation
1. whole group
2. subgroup
   1. partial
   2. total
3. individual

Location
1. in own room
2. out of room
3. out of school

Supervisory Code
1. teacher supervised
2. other supervised
3. nonsupervised

Task Code
0. unclassifiable
1. testing
   1. formal
   2. informal
2. instruction
3. practice
4. application
   1. read
   2. write
   3. neither
   4. both

Attending code
0. unclassifiable
1. high concentration on task
2. mixed
3. is not on task

Subject areas
0. unclassifiable
1. reading
2. language arts
3. other content areas
4. transition from one instructional activity to next/managerial
5. ordinary breaks (lunch/recess)
6. beginning and ending exercises
7. toilet
8. other breaks

Language Arts (02)
0. unclassifiable
1. oral expression
2. penmanship
3. spelling
4. writing mechanics (drill or copying of punctuation, etc.)
5. composing (creative or expository)
6. literature

Difficulty Level
0. unclassifiable
1. seems to be on level
2. seems to be difficult
3. seems to be easy

Reading (01)
0. unclassifiable
1. word recognition
   0. unclassifiable
   1. sight words and/or visual disc.
   2. phonic analysis and/or auditory disc.
   3. structure (prefix, root word, etc.)
   4. context (using sentence sense)
2. Comprehension (general questioning)
   1. factual recall/literal
   2. inferential
   3. critical/evaluative
3. Comprehension (skills)
   0. unclassifiable
   1. factual/literal
   2. inference
   3. critical/evaluative
4. Using oral language experience
   1. building oral language facility
   2. sharing experiences
   3. creating/reading stories based on experiences
   4. other
5. Study skills
6. Using reading to solve a problem or complete a task
7. Affective response to reading
   0. Unclassifiable
   1. Being read to
   2. Looking at or reading books
   3. Completing interest-based book activi
8. Reading graded stories (basal, etc.)
   1. oral
   2. silent

APPENDIX F

Student Outcome Measures

Measures used for student outcomes included:

1. an attitude survey developed by the researchers,
2. a natural language sample in the form of students telling a story for a picture and recording their thoughts on paper,
3. administration of the subtests of the Woodcock Reading Mastery Tests (results included) and,
4. administration of the Gray Oral Reading paragraphs.

WOODCOCK READING MASTERY TESTS

Teacher's #	Teacher's Concept	Letter Identification	Word Identification	Word Attack	Word Comprehension	Passage Comprehens
01	Content oriented	.51	.48	.43	.53	.63
02	pupil oriented	.00	.66	1.18	1.36	1.21
04	content oriented	.06	.36	.71	.23	.55
05	content oriented	1.61	.68	.5	.06	.48
06	pupil oriented	-0.06	.67	.81	.48	.73
08	content oriented	1.38	.36	.08	.88	.46
T12	content oriented	.53	.91	2.01	.58	.96
T13	content oriented	.16	.76	.93	.63	.75
	$\bar{X}$ =	.52	.61	.83	.59	.72

Table 1: Woodcock Group Average Gains.

From: Buike, Burke, & Duffy, Note 10

APPENDIX G

Dimensions for Graphically Displaying Teacher Conceptions

TEACHER #2

WHAT TEACHER SAYS GUIDES DECISIONS